

WHAT IS CLAIMED IS:

1. A MVA LCD (Multi-domain Vertical Alignment Liquid Crystal Display),

comprising:

a first substrate and a second substrate;

5 a common electrode disposed on a first surface of the first substrate;

a plurality of pixel electrodes disposed on a first surface of the second substrate and corresponding to the common electrode;

a plurality of liquid crystal molecules filled between the first substrate and the second substrate;

10 a domain regulating means disposed on the first substrate or the second substrate for regulating the LC director of the liquid crystal molecules;

a first quarter-wave ($1/4\lambda$) plate disposed on the top of a second surface of the first substrate;

15 a first linear light polarizer sheet disposed on the top of the first quarter-wave plate;

a second quarter-wave plate disposed on the bottom of a second surface of the second substrate; and

a second linear light polarizer sheet disposed on the bottom of the second

quarter-wave plate;

wherein the incident light is in the form of circularly polarized light when transmitted through the liquid crystal molecules of the MVA LCD.

2. The MVA LCD according to claim 1, wherein the included angle between
5 the slow axis of the first quarter-wave plate and a first transmission axis of the first linear light polarizer sheet is substantially 45° and the included angle between the slow axis of the second quarter-wave plate and a second transmission axis of the second linear light polarizer sheet is substantially 45° .

3. The MVA LCD according to claim 1, wherein the MVA LCD further includes
10 a half-wave ($1/2\lambda$) plate disposed between the first quarter-wave plate and the first linear light polarizer sheet or between the second quarter-wave plate and the second linear light polarizer sheet.

4. The MVA LCD according to claim 3, wherein the range of the NZ coefficient of the half-wave plate is between 0.4 and 0.6.

15 5. The MVA LCD according to claim 4, wherein the NZ coefficient of the half-wave plate is substantially equal to 0.5.

6. The MVA LCD according to claim 3, wherein the slow axis of the half-wave plate is parallel to a first light transmission axis of the first linear light polarizer sheet or a second light transmission axis of the second linear light polarizer sheet.

5 7. The MVA LCD according to claim 1, wherein the MVA LCD further includes a first half-wave plate disposed between the first quarter-wave plate and the first linear light polarizer sheet and a second half-wave plate disposed between the second quarter-wave plate and the second linear light polarizer sheet, wherein the range of the NZ coefficient of the first and second half-wave plates are both
10 between 0.4 and 0.6.

8. The MVA LCD according to claim 7, wherein the sum of the NZ coefficient of the first and second half-wave plates is substantially equal to 0.5.

9. The MVA LCD according to claim 1, wherein the range of the NZ coefficient of the first and the second quarter-wave plates are both between 0.4
15 and 0.6.

10. The MVA LCD according to claim 9, wherein the NZ coefficient of the first and the second quarter-wave plates are both substantially equal to 0.5.

11. The MVA LCD according to claim 1, wherein the MVA LCD further includes a negative C-plate disposed between the first substrate and the first quarter-wave plate or disposed between the second substrate and the second quarter-wave plate, wherein the oblique refractive index of the negative C-plate is approximately equal to the negative value of the difference of the oblique refractive index of the liquid crystal molecules.

12. The MVA LCD according to claim 1, wherein the MVA LCD further includes a first negative C-plate disposed between the first substrate and the first quarter-wave plate and a second negative C-plate disposed between the second substrate and the second quarter-wave plate, wherein the oblique refractive index of the first and the second negative C-plates are both approximately equal to the negative value of the difference of the oblique refractive index of the liquid crystal molecules.

13. A MVA LCD, comprising:

a first substrate and a second substrate;

a common electrode disposed on a first surface of the first substrate;

a pixel electrode disposed on a first surface of the second substrate and

corresponding to the common electrode;

a plurality of liquid crystal molecules filled between the first substrate and the second substrate;

a domain regulating means disposed on the first substrate or the second
5 substrate for regulating the LC director of the liquid crystal molecules;

a first quarter-wave ($1/4\lambda$) plate disposed on the top of a second surface of the first substrate;

a first linear light polarizer sheet disposed on the top of the first quarter-wave plate;

10 a second quarter-wave plate disposed on the bottom of a second surface of the second substrate;

a second linear light polarizer sheet disposed on the bottom of the second quarter-wave plate;

a half-wave plate disposed between the first quarter-wave plate and the
15 first linear light polarizer sheet or between the second quarter-wave plate and the second linear light polarizer sheet; and

a negative C-plate disposed between the first substrate and the first quarter-wave plate or disposed between the second substrate and the second

quarter-wave plate;

wherein the incident light is in the form of circularly polarized light when transmitted through the liquid crystal molecules of the MVA LCD.

14. The MVA LCD according to claim 13, wherein the included angle between
5 the slow axis of the first quarter-wave plate and a first transmission axis of the first linear light polarizer sheet is substantially 45° and the included angle between the slow axis of the second quarter-wave plate and a second transmission axis of the second linear light polarizer sheet is substantially 45° .

15. The MVA LCD according to claim 13, wherein the range of the NZ
10 coefficient of the half-wave plate is between 0.4 and 0.6.

16. The MVA LCD according to claim 15, wherein the NZ coefficient of the half-wave plate is substantially equal to 0.5.

17. The MVA LCD according to claim 13, wherein the slow axis of the half-wave plate is parallel to a first light transmission axis of the first linear light
15 polarizer sheet or a second light transmission axis of the second linear light polarizer sheet.

18. The MVA LCD according to claim 13, wherein the oblique refractive index of the negative C-plate is approximately equal to the negative value of the difference of the oblique refractive index of the liquid crystal molecules.

19. The MVA LCD according to claim 13, wherein the range of the NZ
5 coefficient of the first and the second quarter-wave plate is between 0.4 and 0.6.

20. The MVA LCD according to claim 19, wherein the NZ coefficient of the first and the second quarter-wave plates are both substantially equal to 0.5.

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